

REMARKS

Claims 5 and 23-27 are pending in this application. By this Amendment, claims 5 and 23-26 are amended. Further, claim 27 is added to incorporate the combination of features recited in claims 5, 23 and 24. Support for the amendments to claims 5 and 24-26 may be found at least on page 45, lines 13-22, and in Figs. 11 and 12. No new matter is added by the above amendment. In view of at least the following, reconsideration and allowance are respectfully requested.

I. Allowable Subject Matter

Applicants thank the Examiner for the indication that claim 24 contain allowable subject matter.

II. Claim Rejection under 35 U.S.C. § 103

The Office Action rejects claims 5, 23, 25 and 26 under 35 U.S.C. § 103(a) over U.S. Patent No. 6,511,186 (Burstyn) in view of U.S. Patent No. 6,575,581 (Tsurushima). This rejection is respectfully traversed.

The Office Action asserts that Burstyn teaches the combined features presently recited in claim 5 with the exception of: (1) a light source unit that emits invisible light for monitoring the screen; (2) a screen monitoring unit; (3) a beam light supply stopping unit; and (4) a housing. Additionally, the Office Action alleges that Fig. 5 and the Background of the Invention of Burstyn disclose a rear-type projector. Finally, the Office Action asserts that Burstyn employs a focus and aim device 342 that operates depending on the state of the screen.

However, the Office Action acknowledges that Burstyn fails to disclose an on and off operation of the light source that is dependent on the state of the screen. Further, the Office Action concedes that Burstyn fails to disclose means for detecting invisible light as reflected from a screen and then using the detected invisible light to turn a laser light source on and off.

To this end, the Office Action asserts that Tsurushima cures the deficiencies of Burstyn. For example, the Office Action alleges that Tsurushima teaches that means for detecting invisible light as reflected from a screen and then using the detected invisible light to turn a laser light source on and off are well known in the art. Consequently, the Office Action asserts that the combination of Burstyn and Tsurushima renders the presently claimed combination of features obvious.

Applicants respectfully submit that the combination of Burstyn and Tsurushima fails to teach, disclose or suggest the presently claimed combination of features. Indeed, independent claim 5 presently recites, in part, that a controller, which functions as a beam light supply stopping unit, carries out one of the following actions: (1) stopping the oscillation of each of the color laser beam sources 1101R, 1101G, and 1101B; (2) shielding of the lights by closing the shutter 1104 while each of the color laser beam sources is oscillated; and (3) shutting off the power to each of the color laser beam sources. Thus, the act of the controller 1103 controls shutting down of only the laser beam sources does not necessarily imply stopping the invisible light emitted from the screen monitoring unit. Additionally, a light source unit for the screen monitoring unit is disposed outside the opening of the laser beam source.

Therefore, because monitoring of the screen is continued after the shutting down of the laser beam, emission of the laser beam is effectively prevented during the abnormal operation of the rear-type projector. Consequently, the monitoring of the screen reduces the possibility of exposure to the laser beam. Any other construction of the claims would be counter-intuitive to the benefits and safety measures associated with such a combination of features.

Independent claim 5 presently recites, in part, "a laser beam source that outputs a laser beam that is modulated based on an image signal from an opening; a scanning unit that scans

the laser beam within a predetermined surface; a screen to which the laser beam is projected from a backside of the screen; a light source unit for screen monitoring that is disposed outside the opening and that emits invisible light for monitoring the screen; a screen monitoring unit that receives the invisible light reflected from the screen; a control unit that controls the laser beam source so as to stop output of only the laser beam based on an output of the screen monitoring unit" (emphasis added).

In contrast, column 5, lines 1-6 of Tsurushima discloses that the reflection wave sensor 6 is connected to switch 7 that is arranged to turn on/off the power source 4 for driving the lasers of different colors and the detection wave. Accordingly, the detection wave source is also shut down when intrusion of an obstacle is detected. Moreover, pursuant to column 4, lines 21-26 of Tsurushima, the detection wave source is arranged on a line with lasers of red, green and blue, and the detection wave is emitted to irradiate the display screen by way of the objective lens 2a of the optical modulator unit similar to the emission of the different color laser beams. Thus, according to the disclosure of Tsurushima, the detection wave source is arranged within the laser beam source.

Burstyn and Tsurushima, in any combination, do not teach, disclose or suggest "a light source unit for screen monitoring that is disposed outside the opening and that emits invisible light for monitoring the screen", and/or "a control unit that controls the laser beam source so as to stop output of only the laser beam based on an output of the screen monitoring unit." (emphasis added). Therefore, Burstyn and Tsurushima, either individually or in combination, do not teach, disclose or suggest the subject matter recited in claim 5.

Claims 23-26 depend from claim 5. Because the applied references, in any combination, fail to render the subject matter of independent claim 5 obvious, dependent claims 23-26 are patentable for at least the reasons that claim 5 is patentable, as well as for the additional features they recite.

Accordingly, withdrawal of the rejections is respectfully requested.

III. New Claims

By this Amendment, claim 27 is added. Claim 27 is allowable because it recites the acknowledged allowable subject matter of claim 24. In other words, claim 27 is claim 24 written in independent form thereby incorporating the combination of features of the claims from which claim 24 depends from. Thus, claim 27 is allowable for the same reasons that claim 24 is allowable as well as for the additional features it recites.

Accordingly, allowance of the claims is respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Attachment:
Request for Continued Examination (RCE)

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